

CLAIMS

We claim:

1 1. A configurable value-added network switch for enabling real-time transactions on the
2 World Wide Web, said configurable value added network switch comprising:

3 means for switching to a transactional application in response to a user specification from
4 a network application;

5 means for transmitting a transaction request from said transactional application; and

6 means for processing said transaction request.

1 2. The configurable value-added network switch as claimed in Claim 1 wherein said
2 means for switching further comprises:

3 means for receiving said user specification;

4 means for enabling a switch to said transactional application; and

5 means for activating said transactional application.

1 3. The configurable value-added network switch as claimed in Claim 2 wherein means
2 for activating said transactional application further includes means for creating a transaction link
3 between said user application and said transactional application.

1 4. The configurable value-added network switch as claimed in Claim 1 wherein said
2 means for processing said transaction request further comprises means for coupling said means

3 for transmitting to a host.

1 5. The configurable value-added network switch as claimed in Claim 4 wherein said host
2 contains data corresponding to said transaction request.

1 6. A method for configuring a value-added network switch on the network, said method
2 for configuring said value-added network switch comprising the steps of:

3 switching to a transactional application in response to a user specification from a network
4 application;

5 transmitting a transaction request from said transactional application; and

6 processing said transaction request.

1 7. The method for configuring said value-added network switch as claimed in Claim 6
2 wherein said step of switching further comprises the steps of:

3 receiving said user specification;

4 enabling a switch to said transactional application; and

5 activating said transactional application.

1 8. The method for configuring said value-added network switch as claimed in Claim 7
2 wherein said step of activating said transactional application further includes the step of creating
3 a transaction link between said user application and said transactional application.

1 9. The method for configuring said value-added network switch as claimed in Claim 6
2 wherein said step of processing said transaction request further comprises the step of transmitting
3 said transaction request to a host.

1 10. The method for configuring said value-added network switch as claimed in Claim 9
2 wherein said host contains data corresponding to said transaction request.

1 11. A configurable value-added network system for enabling real-time transactions on
2 the network, said configurable value-added network system comprising:

3 means for switching to a transactional application in response to a user specification from
4 a user application;

5 means for activating an agent to create a transaction link between said user application
6 and said transactional application;

7 means for transmitting a transaction request from said transactional application; and

8 a host for processing said transaction request and retrieving data corresponding to said
9 transaction request.

1 12. A method for enabling object routing on the network, said method for enabling
2 object routing comprising the steps of:

3 creating a virtual information store containing information entries and attributes; and

4 associating each of said information entries and said attributes with an object identity.

1 13. The method in claim 12 further comprising the step of utilizing a unique network

2 address to route said object identity on the network.

1 14. The method in claim 12 further comprising the step of utilizing a unique network
2 address to route said object identity on the Internet.

1 15. The method in claim 12 wherein said step of associating each of said information
2 entries and said attributes with said object identity further includes the step of storing a name, a
3 syntax and an encoding for said object identity.

1 16. The method in claim 15 wherein said name of said object identity specifies an object
2 type.

1 17. The method in claim 16 wherein said object type and an object instance uniquely
2 identify an instantiation of said object type.

1 18. The method in claim 17 wherein said syntax defines a data structure for said object
2 type.

1 19. The method in claim 12 further comprising the step of utilizing said object identity to
2 perform Operations, Administration, Maintenance & Provisioning (OAM&P) functions.

1 20. An object router on the network, said object router comprising:

2 means for creating a virtual information store containing information entries and
3 attributes; and

4 means for associating each of said information entries and said attributes with an object
5 identity.

1 21. The object router in claim 20 further comprising means for utilizing a unique
2 network address to route said object identity on the network.

1 22. The object router in claim 20 further comprising means for utilizing a unique
2 network address to route said object identity on the Internet.

1 23. The object router in claim 20 wherein said means for associating each of said
2 information entries and said attributes with said object identity further includes means for storing
3 a name, a syntax and an encoding for said object identity.

1 24. The object router in claim 23 wherein said name of said object identity specifies an
2 object type.

1 25. The object router in claim 24 wherein said object type and an object instance
2 uniquely identify an instantiation of said object type.

1 26. The object router in claim 25 wherein said syntax defines a data structure for said
2 object type.

1 27. The object router in claim 20 further comprising the step of utilizing said object
2 identity to perform Operations, Administration, Maintenance & Provisioning (OAM&P)
3 functions.

1 28. An object router including a Distributed Online Service Information Base
2 (DOLSIB) on a network, said object router DOLSIB comprising:

3 means for creating a virtual information store containing information entries and
4 attributes;

5 means for associating each of said information entries and said attributes with an
6 object identity;

7 means for describing events and actions of an object identified by said object
8 identity using a DOLSIB language construct; and

9 means for interpreting said DOLSIB language construct describing said events and
10 actions of an object.

1 29. The object router DOLSIB in claim 28 further comprising means for parsing said
2 DOLSIB language construct.

1 30. The object router DOLSIB in claim 28 further comprising means for utilizing a
2 unique network address to route said object identity on the network.

1 31. The object router DOLSIB in claim 28 wherein said means for associating each of
2 said information entries and said attributes with said object identity further includes
3 means for storing a name, a syntax and an encoding for said object identity.

1 32. The object router DOLSIB in claim 31 wherein said name of said object identity
2 specifies an object type.

1 33. The object router DOLSIB in claim 32 wherein said object type and an object
2 instance uniquely identify an instantiation of said object type.

1 34. A method comprising:

2 switching to a transactional application in response to a user specification from a user
3 application;

4 activating an agent to create a transaction link between said user application and said
5 transactional application;

6 transmitting a transaction request from said transactional application; and

7 processing said transaction request and retrieving data corresponding to said transaction
8 request.

1 35. A method comprising:

2 creating a virtual information store containing information entries and attributes;

3 associating each of said information entries and said attributes with an object
4 identity;

5 describing events and actions of an object identified by said object identity using a
6 DOLSIB language construct; and

7 interpreting said DOLSIB language construct describing said events and actions of
8 an object.

1 36. The method in claim 35 further comprising parsing said DOLSIB language
2 construct.

1 37. The method in claim 35 further comprising utilizing a unique network address to
2 route said object identity on the network.

1 38. The method in claim 35 wherein said associating each of said information entries
2 and said attributes with said object identity further includes storing a name, a
3 syntax and an encoding for said object identity.

1 39. The method in claim 38 wherein said name of said object identity specifies an
2 object type.

1 40. The method in claim 39 wherein said object type and an object instance uniquely
2 identify an instantiation of said object type.

1 41. The configurable value-added network switch as claimed in Claim 1 further
2 including a means for automated state management and service network control.

1 42. The configurable value-added network switch as claimed in Claim 1 further
2 including a means for automating a transaction from end to end in real time.

1 43. The configurable value-added network switch as claimed in Claim 1 further
2 including a means for keeping a transaction captive for content aggregation.

1 44. The configurable value-added network switch as claimed in Claim 1 further
2 including a means for intelligently connecting a transaction for usage-based
3 services.

1 45. The configurable value-added network switch as claimed in Claim 1 further
2 including a means for connecting the subscriber to multiple content publishers
3 backend network nodes.

1 46. The configurable value-added network switch as claimed in Claim 1 further
2 including a means for dynamic virtual packaging.

1 47. The configurable value-added network switch as claimed in Claim 1 further
2 including a means for creating a value-added service specific virtual private
3 network of remote service partners.

1 48. The method as claimed in Claim 6 further including a step of automating state
2 management and service network control.

1 49. The method as claimed in Claim 6 further including a step of automating a
2 transaction from end to end in real time.

1 50. The method as claimed in Claim 6 further including a step of keeping a transaction
2 captive for content aggregation.

1 51. The method as claimed in Claim 6 further including a step of intelligently
2 connecting a transaction for usage-based services.

1 52. The method as claimed in Claim 6 further including a step of connecting the
2 subscriber to multiple content publishers backend network nodes.

1 53. The method as claimed in Claim 6 further including a step of dynamic virtual
2 packaging.

1 54. The method as claimed in Claim 6 further including a step of creating a value-
2 added service specific virtual private network of remote service partners.

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